

A new species of *Chlorolestes* (Odonata: Synlestidae) from the eastern Cape Province.

by

B. C. WILMOT

Albany Museum, Grahamstown

The imago of a new species of damselfly, *Chlorolestes apricans*, collected along the extent of the Amatola-Winterberg Range, is figured and described. A comparison with *C. umbratus* Sélys, 1862, which it resembles in general habitus, is included.

The specimens studied were collected in the Amatola-Winterberg Range during a survey of the Odonata of this area undertaken over the period 1970-1973. These mountains, some 160 km in extent and lying 60 km north of Grahamstown, constitute a highland spur isolated from both the southern Drakensberg and Cape Fold Mountains by the deep valleys of the Great Kei and Great Fish Rivers (Stuckenberg, 1962). To date two species of the genus *Chlorolestes* Sélys, 1862, namely, *C. fasciatus* (Burmeister, 1839) and *C. tessellatus* (Burmeister, 1839), have been recorded from this area (Brinck, 1955: fig. 13; Wilmot, in preparation). To neither of these two species do the specimens studied show affinity, resembling rather in their general habitus the smaller *C. umbratus* Sélys, 1862, (Balinsky, 1971, personal communication) which is considered to be restricted to the western and south western Cape (Brinck, 1955). A careful comparison with *C. umbratus* has revealed differences that merit the description of a new species.

Chlorolestes apricans spec. nov., figs 1-5

Mature Male. Labium ochreous, genae ochreous yellow, labrum bright metallic green, anteclypeus pale ochreous with lateral intrusions of metallic green dorsally; postclypeus, frons and vertex bright metallic green and occiput metallic green with bronze reflections. Eyes pale brown in dorsal quarter, the remainder pale blue.

Pronotum metallic green with heavy bluish pruinosity covering whole dorsal surface. Mesepisternum metallic green with narrow, sharply-defined, ochreous brown humeral stripe crossing humeral suture to continue as broader stripe on postero-dorsal angle of mesepimeron (fig. 1). Remainder of mesepimeron metallic green except antero-ventral quarter which is ochreous brown. Metepisternum with metallic green cuneiform stripe abutting on 1st lateral suture for part of length and with apex just posterior to metastigma. Metepimeron with metallic green bar across postero-dorsal angle. Rest of metepisternum, metepimeron and metasternum, except for scattered greenish black marks, ochreous brown. Legs laterally black with median ochreous brown stripes on femora; mesially pale ochreous. Antealar sinus metallic green, interalar spaces and humeral plates of both pairs of wings metallic green but covered with heavy bluish pruinosity.

Wings (fig. 2a) either banded or hyaline. Banded wings with opalescent white from nodus and distal angle of discoidal cell to 5-6 Px, then reddish brown ending 2-3

cells proximal to pterostigma in forewing and even closer in hindwing. R_{4+5} at or just distal to subnodus, IR_3 1–2 cells distal. At level of pterostigma 2 rows of cells between IR_2 – R_3 and 2–3 rows between R_3 – IR_3 ; a single row of cells between IR_3 – R_{4+5} and both R_3 – IR_3 and R_{4+5} – MA evenly diverging. Pterostigma in length 1,6–2,1 mm, covering $2\frac{1}{2}$ – $3\frac{1}{2}$ cells, narrow, unicolorous ochreous with black veins.

Abdomen dorsally metallic green with very narrow ochreous mid-dorsal line on segments 3–5 and slight, pale ochreous transverse rings at bases of segments 3–7, complete on segment 3 but incomplete mid-dorsally on remainder. Pronounced bluish pruinosity on tergites 1 and 8–10 though in some specimens limited on segment 8 to traces on distal half. Ventrally abdomen pale ochreous with black mid-line. Posterior edge of 10th tergite only shallowly excised medially (fig. 3).

Genitalia (figs 3–5) with hamules not heavily sclerotised and posterior hamules apically blunt. Penis with subterminal fossa and short, curved distal hook, partially covered by folded membrane. Superior anal appendages black with distinct thickenings $\frac{1}{3}$ of length from proximal end. Inferior anal appendages each with single upturned claw.

Immature Male. As for mature male except metallic green of synthorax and abdomen more brilliant, and labium, genae, humeral stripe, sides and ventrum of synthorax and ventral surface of abdomen not ochreous but lemon yellow. Wings hyaline or with only a trace of banding. In some specimens lemon yellow longitudinal bands are present dorso-laterally on pronotum.

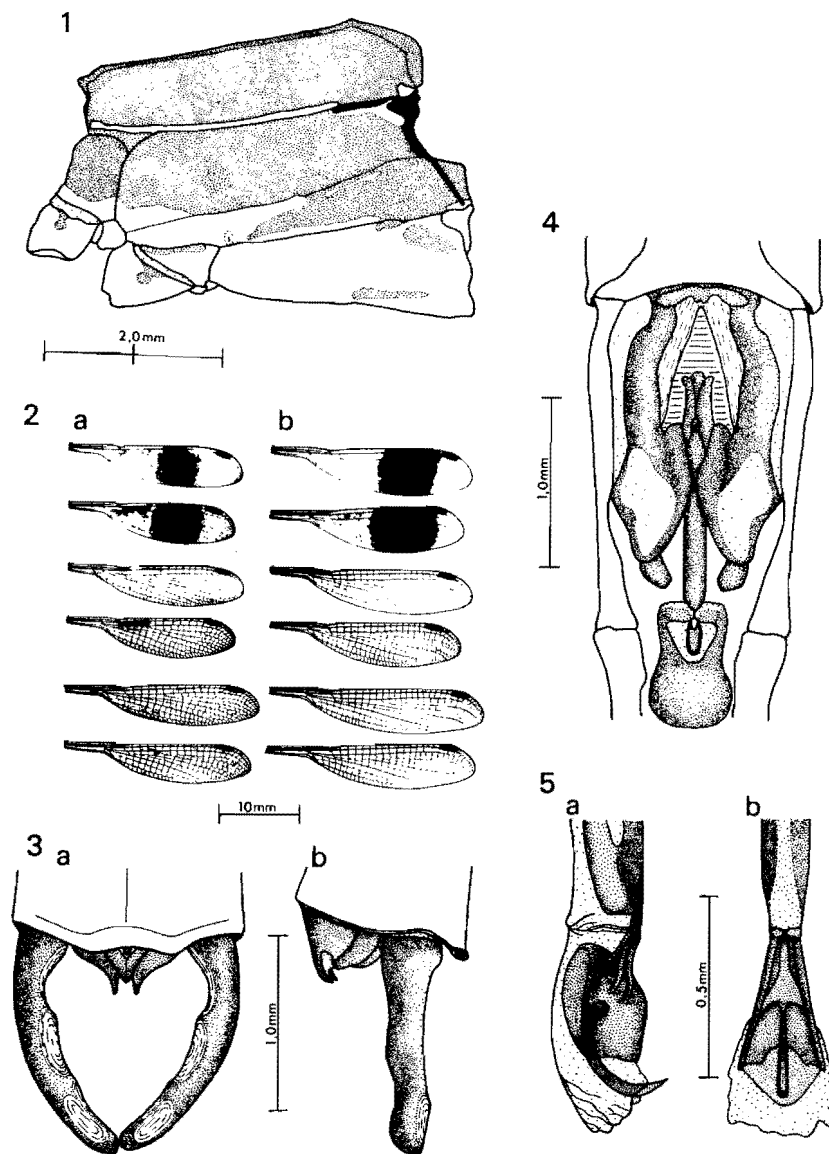
Female. In coloration similar to immature male but with less pruinosity especially on pronotum and 8th abdominal segment where often absent. Lemon yellow longitudinal bands on pronotum present in all females. Posterior edge of 10th abdominal segment not excised but evenly convex. Cerci black, short, and tapered.

Preservation: Specimens, either dry (pinned) or wet (70% ethanol), show notable differences in coloration from fresh specimens. Metallic green changes to bronze or reddish bronze with both forms of preservation; ochre and lemon yellow to brown or dark brown in dry specimens and pale cream in wet specimens; pruinosity reduced or even absent in wet specimens. Eyes dark brown with grey, horizontal striations in dry specimens and uniform bluish grey in wet specimens.

Measurements:

Abdomen	♂ 28,9–32,6 mm	♀ 28–31,3 mm
Hindwing length	♂ 19,5–22 mm	♀ 21–23,4 mm
Hindwing breadth	♂ 4,5–5,1 mm	♀ 4,3–4,8 mm
Ratio abdomen/hindwing	♂ 1,4–1,53	♀ 1,27–1,35

Distribution: Collected along open reaches of sedge- and reed-flanked water-courses both on the higher slopes and in the foot hills of the Amatola-Winterberg Range. Recorded from the Kubusi River at Stutterheim ($32^{\circ} 35'S.$, $27^{\circ} 25'E.$, alt. 769 m); Sidenge River at Lowlands ($32^{\circ} 39'S.$, $27^{\circ} 21'E.$, alt. 815 m); Klipplaat River at Grasslands ($32^{\circ} 34'S.$, $26^{\circ} 59'E.$, alt. 1 414 m), Clifton ($32^{\circ} 31'S.$, $26^{\circ} 58'E.$, alt. 1 379 m), Upper Chilton ($32^{\circ} 22'S.$, $26^{\circ} 55'E.$, alt. 1 257 m); Tyumie River at Plaatjieskraal ($32^{\circ} 35'S.$, $26^{\circ} 54'E.$, alt. 1 288 m), Kwa-Kayaletu ($32^{\circ} 38'S.$, $26^{\circ} 56'E.$, alt. 709 m), Woburn ($32^{\circ} 42'S.$, $26^{\circ} 53'E.$, alt. 588 m); Koonap River at Post Retief ($32^{\circ} 28'S.$, $26^{\circ} 31'E.$, alt. 1 039 m); and Tarka River at Glen Etive ($32^{\circ} 19'S.$, $26^{\circ} 17'E.$, alt. 1 457 m).



Figs 1-5. *Chlorolestes* species. 1-5 (except 2b), *C. apricans* spec. nov. 1. Synthorax, lateral view. 2a. Right fore- and hindwing of banded ♂, unbanded ♂ and ♀. 3. ♂ anal appendages, dorsal (a) and lateral (b) view. 4. ♂ accessory genitalia, ventral view. 5. Terminal part of penis, lateral (a) and ventral (b) view. 2b, *C. umbratus* Selys, right fore- and hindwing of banded ♂, unbanded ♂ and ♀.

MATERIAL EXAMINED. Holotype ♂ (banded); EASTERN CAPE, Stutterheim, 7.iv.1973 (B. C. Wilmot), deposited in Albany Museum, Grahamstown. Paratypes, same data as holotype: 4♂♂ (banded), 3♂♂ (unbanded) and 4♀♀ in Albany Museum and in National Museum, Bulawayo. All type-material preserved dry.

Additional material examined. 19♂♂ (banded), 23♂♂ (unbanded) and 15♀♀, from all localities listed above, in 70% ethanol in Albany Museum.

DISCUSSION

The possession of a penis with an apically acute distal hook, R_{4+5} at subnodus (or just distal), unicolorous pterostigma and unbranched inferior anal appendages in male, places *C. apricans* together with *C. umbratus* and *C. conspicuus* Sélys, 1862, in the subgenus *Chlorolestes* (*sensu stricto*) (Barnard, 1937; Pinhey, 1951). Though *C. apricans* is similar to *C. umbratus* in size, and in having the humeral stripe crossing the humeral suture posteriorly and a cuneiform stripe on the metepisternum, numerous differences exist between the two species.

- (1) The labrum is bright metallic green in *C. apricans* black in *C. umbratus*.
- (2) Heavy bluish pruinosity developing early on the pronotum of males in *C. apricans* is more distinctive than the thin pruinose dusting of some mature males in *C. umbratus*.
- (3) The humeral stripe in *C. apricans* is narrower and more sharply defined than in *C. umbratus*.
- (4) The heavy pruinosity in the interalar spaces of *C. apricans* is more pronounced than in *C. umbratus* where it is limited to a small dot between the hindwings.
- (5) White band on wings of mature males in *C. apricans* extends to 5–6 Px, then reddish brown, ending proximal to pterostigma. In *C. umbratus* white band extends to 6–8 Px, then brown to proximal end of pterostigma or further.
- (6) The branching of the veins in the distal part of the wings in *C. apricans* is more abundant than in *C. umbratus* (fig. 2a, b); actually intermediate between *C. umbratus* and *C. conspicuus*.
- (7) The abdomen in *C. apricans* is shorter than in *C. umbratus*, 28.9–32.6 mm in males compared to 34–37 mm in the latter species.
- (8) The abdomen/hindwing ratio (♂) is lower in *C. apricans* (1.4–1.53) than in *C. umbratus* (± 1.6).
- (9) The posterior hamules are apically blunt in *C. apricans* but acute in *C. umbratus*.
- (10) Hook of penis is terminally unbranched in *C. apricans* but bifurcate in *C. umbratus*.
- (11) Superior anal appendages of males in *C. apricans* have distinct thickenings 1/3 of length from proximal end, in *C. umbratus* broaden gradually along entire length.

ACKNOWLEDGEMENTS

I should like to thank Prof. B. I. Balinsky and Dr F. M. Chutter for their assistance in the identification of the specimens studied. In addition, I wish to thank Mr C. F. Jacot Guillarmod, Director of the Albany Museum, for his useful criticisms in the preparation of this manuscript.

REFERENCES

- BARNARD, K. H. 1937. Notes on dragon-flies (Odonata) of the S.W. Cape with descriptions of the nymphs, and of new species. *Ann. S. Afr. Mus.* **32**: 169–260.
- BRINCK, P. 1955. Odonata. In Hanström *et al*: *South African Animal Life* **2**: 191–233. Almqvist & Wiksell. Stockholm.
- PINHEY, E. C. G. 1951. The dragonflies of southern Africa. *Mem. Transv. Mus.* **5**: 1–335.
- STUCKENBERG, B. R. 1962. The distribution of the monetane palaeogenic element in the South African invertebrate fauna. *Ann. Cape Prov. Mus.* **2**: 190–205.

Manuscript received 1 August 1974